METHOD AND DEVICE FOR GENERATING VOICE/TEXT/IMAGE COMMERCIAL INFORMATION RINGBACK TONE DURING COMMUNICATION WAIT

TECHNICAL FIELD

The present invention relates to a method and a device for generating a commercial information ringback tone such as advertisements, music or news during a communication wait, and more particularly to a method and a device for generating voice/text/image commercial information ringback tone during the communication is on wait in which when a telephone caller calls upon a telephone receiver or upon any type of automatic response application systems(ARS, VMS, VISS, PPS) by using ordinary telephones, mobile telephones(CDMA, PCS, TDMA, GSM, AMPS, IMT-2000), video telephones, satellite telephones or internet telephones, the caller can hear and see by providing into the caller's telephone various commercial information such as advertisements, music or news in forms of voice, text or image instead of the waiting signal sound through the telephone.

BACKGROUND ART

In general, when a telephone caller by using ordinary telephones or mobile telephones calls a particular company

or a subscriber service center by phone, he or she can hear the commercial advertisements. These advertisements have been very effective since they naturally flow out during the communication wait. In a conventional art, during the communication is on wait, messages such as "hold on for a while', and "other communication is still going on" are repetitively generated to the caller's phone. Recently, a particular service system for some mobile telephones provides voice type advertisements to the caller's phone.

When an user makes a phone call, the user can be provided the advertisements instead of the waiting signal sound or the repeating voice ment informed by a particular service, relax a tiresome state and also can get a telephone charge discount.

Recently, at pharmacies or restaurants provide free call service for the clients. In the free call service, upon hearing advertisements for 10 to 15 seconds, the clients can use the telephone for free.

However, in the conventional free call service, the user must call to the advertisement company at first, hear the advertisement and then input the number he wants to. So, there is a problem that can be happened time consuming and inconvenient aspects.

DISCLOSURE OF THE INVENTION

The object of the present invention is to overcome the

above described problem and is to provide a method for generating a voice/text/image commercial information ringback tone through which the telephone originator can hear and see advertisements, music and news in the form of voice, text or image with the background music, and through which the communication company can have the benefit made by providing the commercial information and the advertisement company can maximize the advertisement productivity.

Another object of the invention is to provide an information generating device during the communication wait to achieve the above described method.

To achieve the first object, there is provided a method for generating a voice/text/image commercial information ringback tone through a communication system including a call process function carrying out a transfer of a commercial information to an originating telephone instead of a ringback tone or a guide message during a communication wait till a receiving side is received after the calling from the originating telephone of a subscriber to a receiving side(a receiving telephone of a subscriber or a receiving communication system)is completed, the method comprising the steps of: checking a telephone call(S1), connecting with an information generating device(hereinafter, a commercial information ringback tone generating system/device) at an originating or a receiving communication system when the call is detected(S2), beginning to transmit a commercial information to an

originating telephone from the commercial information ringback tone generating system in at least one form of a voice, a text, and/or an image, during a communication wait(S3), requesting a connection to a receiving telephone from the commercial information ringback tone generating system when a first predetermined time(A-timeout) lapses(S4),and continuously transmitting the commercial information to the originating telephone(S5); checking whether the receiving telephone accepts the connection request(S6), checking whether a second predetermined time(B-timeout) lapses since the commercial information ringback tone is provided if the connection request is not accepted(S11), checking whether a telephone connection fails if within the second predetermined time(B-timeout)(S14) and continuously providing the commercial information ringback tone to the originating telephone if the telephone connection does not fail(S5); stopping the providing of the commercial information ringback tone if the telephone connection is made in the step S6(S7), connecting a communication line between the originating telephone and the receiving telephone(S8), checking whether the communication is finished(S9), and disconnecting the communication line if the communication finishes(S10); stopping the sending of the commercial information ringback tone if the second predetermined time(B-timeout) lapses since the connection request in the step S11(S12), and connecting a relay line between an originating switch and a receiving switch(S13); and stopping the sending of the

commercial information ringback tone if the connection request fails(S15), releasing the relay line between the originating switch and the receiving switch(S16), checking whether a next connection request is(S17), and beginning to transmit the commercial information to the originating telephone from the commercial information ringback tone generating system(S3).

The method further includes the steps of requesting the connection to the receiving telephone after the first predetermined time(A-timeout) lapses in the step S4, stopping the sending of the commercial information ringback tone and beginning to transmit an original ringback tone or the guide message to the originating telephone when a ringback tone hearing mode is set(S18), checking whether the receiving telephone accepts the request(S19), stopping the providing of the ringback tone of the guide message if the request is accepted(S20), connecting the communication line between the originating telephone and the receiving telephone(S21), checking whether the communication is finished(S22), and disconnecting the communication line between the originating telephone and the receiving telephone(S23).

To achieve the second object of the invention, there is provided an information generating device having a communication system including an originating telephone, a receiving telephone including an ordinary telephone, a mobile phone(CDMA, PCS, TDMA, GSM, AMPS, IMT-2000 type etc), a video phone, a satellite phone, an internet phone

etc a subscriber communication line and a relay communication line which are positioned in a switch system, the device comprising: a commercial information server for providing commercial information including advertisement, music, composite information(news, weather, sports, stock information, humor, entertainment etc), subscriber information(bio-rhythm, fortune, position, entertainer information, stock, fee information etc); a voice/text/image commercial information ringback tone generating device for providing a commercial information ringback tone in forms of a voice, a text, or an image from the commercial information server to the originating telephone which is on communication wait through the subscriber communication line, the voice/text/image commercial information Ringback tone generating device being provided in the switch system; a voice/text/image commercial information ringback tone generating system for providing a commercial information ringback tone in forms of a voice, a text, or an image from the server to the originating telephone which is on wait through the relay communication line and the subscriber communication line, the voice/text/image/commercial information ringback tone generating system being provided outside of the switch system; and a subscriber's private information server for providing a subscriber's private information individually in terms of regions, gender, ages and time bands, the commercial information ringback tone is provided depending on the subscriber's private information.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG.1 is a block diagram of a system providing voice/text/image commercial information ringback tone service.

FIG.2 is a flow chart for illustrating a voice/text/image commercial information providing method during a communication wait according to the present invention.

FIG.3 is a flow chart for illustrating the method to generate an original ringback tone after the voice/text/image commercial information is provided during a communication wait.

FIG.4 is a connection diagram between systems using commercial information ringback tone generating system at an originating switch system such as switch, PABX etc.

FIG.5a shows a commercial information ringback tone generating procedure in case where the commercial information Ringback tone generating system is used as a toll station at the originating switch system according to a first embodiment of the invention.

FIG.5b shows a commercial information ringback tone generating procedure in case where the commercial information ringback tone generating system is used as an end station at the originating switch system according to a first embodiment of the invention.

FIG.6 is a connection diagram between systems using

the commercial information ringback tone generating system in the originating switch system.

FIG.7 shows a commercial information ringback tone generating procedure by the commercial information ringback tone generating device in the originating switch system in accordance with a second embodiment of the invention.

FIG.8 is a system connection diagram using commercial information ringback tone generating system at a receiving switch system.

FIG.9a shows a commercial information ringback tone generating procedure in case where the commercial information ringback tone generating system is utilized as a toll station at the receiving switch system according to a third embodiment of the invention.

FIG.9b shows a commercial information ringback tone generating procedure in case where the commercial information ringback tone generating system is set as an end station at the receiving switch system according to a third embodiment of the invention.

FIG.10 is a system connection diagram using the commercial information ringback tone generating device in the receiving switch system.

FIG.11 shows a commercial information ringback tone generating procedure using the commercial information ringback tone generating device in the receiving switch system in accordance with a fourth embodiment of the invention.

FIG.12 is a connection diagram between systems using

a commercial information announcement generating system.

FIG.13 shows a commercial information announcement generating procedure using a commercial information announcement generating system according to a fifth embodiment of the invention.

FIG.14 is a connection diagram between systems using a commercial information announcement generating device of an automatic response application system such as ARS, VMS, VISS(Voice Information Service System), PPS(PrePaid System) etc.

FIG.15 shows a commercial information announcement generating procedure using a commercial information announcement generating device in accordance with a sixth embodiment of the invention.

FIG.16 is a connection diagram between systems using the commercial information Ringback tone generating device on an intelligent network.

FIG.17 shows a commercial information ringback tone generating procedure using the commercial information ringback tone generating system on the intelligent network according to a seventh embodiment of the invention.

FIG.18 is a connection diagram between systems using a commercial information ringback tone generating device of an Intelligent Peripheral on the intelligent network.

FIG.19 shows a commercial information ringback tone generating procedure using a commercial information ringback tone generating device of the Intelligent Peripheral on the intelligent network according to a eighth

embodiment of the invention.

BEST MODE FOR CARRYING OUT THE INVENTION

Hereinafter, preferred embodiments of the present invention will be described with reference to the accompanying figures.

Referring to FIG. 1, which is a system construction diagram for providing a service using a telephone ringback tone having voice/text/image commercial information(advertisement, music, news, stock, weather information etc), the system includes an originating telephone 1 and a receiving telephone 4 including ordinary telephones, video telephones, mobile telephones, satellite telephones and internet telephones, a subscriber communication line 2 and a voice/text/image commercial information ringback tone generating device 3 in a switch system, a relay communication line 5, a voice/text/image commercial information ringback tone generating system 6 and a commercial information server 7, a subscriber's private information server 8 and a switch system 9 in a telephone office.

When a caller makes a call by the originating telephone 1, commercial information such as advertisement, music or news in forms of voice, text or image are provided to originating telephone 1 during a communication wait by commercial information providing server 7 which provides a

commercial information ringback tone including advertisement, music, composite information(news, weather, sports, stock evaluation, humor, entertainment) and a subscriber's private information(bio-rhythm, fortune, position, entertainer information, stock, fee etc) through the voice/text/image commercial information ringback tone generating system 6 installed outside of the switch system or the voice/text/image commercial information ringback tone generating device 3 installed inside the switch system.

The voice/text/image commercial information ringback tone generating device 3 in the switch system or the voice/text/image commercial information ringback tone generating system 6 stores the commercial information in forms of voice, music, text or image by the request of the commercial information provider such as advertisement company, broadcast station or stock company. When there is a call from the originating telephone 1, the commercial information are provided to the originating telephone 1 during communication wait from the voice/text/image commercial information ringback tone generating device 3 or the voice/text/image commercial information Ringback tone generating system 6 through the subscriber communication line 2.

FIG.2 is a flow chart for illustrating a method for providing the voice/text/image commercial information during the communication wait according to the present invention.

The method includes the steps of checking a telephone call(S1), connecting with an information generating device(hereafter, a commercial information ringback tone generating system/device) at an originating or a receiving communication system when the call is detected(S2), beginning to transmit a commercial information such as advertisement, music, news, weather, sports, stock evaluation, humor, bio-rhythm, fortune, entertainment, position, fee in at least one form of a voice, or a text, or an image, or a voice and a text, or a voice and an image, or a text and an image, or a voice and a text and an image instead of the original ringback tone or the guide message to an originating telephone from the commercial information ringback tone generating system during a communication wait(S3), requesting a connection to a receiving telephone from the commercial information ringback tone generating system after a first predetermined time(A-timeout) lapses(S4), and continuously transmitting the commercial information to the originating telephone(S5).

The method further includes the steps of: checking whether the receiving telephone accepts the connection request(S6), checking whether a second predetermined time(B-timeout) lapses since the commercial information ringback tone is generated if the connection request is not accepted(S11), checking whether a telephone connection fails if it is within the second predetermined time(S14) and continuously providing the commercial information

ringback tone to the originating telephone if the telephone connection does not fail(S5).

The method further includes the steps of: stopping the providing of the commercial information ringback tone if the telephone connection is made in the step S6(S7), connecting a communication line between the originating telephone and the receiving telephone(S8), checking whether the communication is finished(S9), and disconnecting the communication line if the communication finishes(S10).

The method further includes the steps of: stopping the sending of the commercial information ringback tone if the second predetermined time(B-timeout) lapses since the connection request begins in the step S11(S12), and connecting a relay line between an originating switch system and a receiving switch system(S13).

The method further includes the steps of: stopping the sending of the commercial information ringback tone if the connection request fails(S15), releasing the relay line between the originating switch system and the receiving switch(S16), checking whether a next connection request is(S17), and beginning to transmit the commercial information to the originating telephone from the commercial information ringback tone generating system(S3).

Referring to FIG.3, when a ringback tone hearing mode is set, the method further comprises the steps of requesting a connection to the receiving telephone after the first predetermined time(A-timeout) lapses in the step S4, stopping the sending of the commercial information

ringback tone and transmitting an original ringback tone to the originating telephone(S18), checking whether the receiving telephone accepts the request(S19), stopping the providing of the ringback tone if the request is accepted(S20), connecting the communication line between the originating telephone and the receiving telephone(21), checking whether the communication is finished(S22), and disconnecting the communication line between the originating telephone and receiving telephone(S23).

FIG.4 is a connection diagram between systems using the commercial information ringback tone generating system at the originating switch system. The originating switch system includes a switch, PABX and other switch.

FIG.5a illustrates a commercial information ringback tone generating procedure in case where the commercial information ringback tone generating system is used as a toll station at the originating switch system in accordance with a first embodiment of the invention.

The first embodiment includes the steps of: requesting a connection to the commercial information ringback tone generating system by sending an initial address message(IAM) from the originating switch system(2) when the originating telephone makes a call to the originating switch system(1), confirming the connection from the commercial information ringback tone generating system by sending an address complete message(ACM) to the originating switch system(3), replying a receiver connection by sending an answer message(ANM) from the commercial information

ringback tone generating system to the originating switch system in case of a charged ringback tone type(3-1), transmitting the commercial information ringback tone(advertisement, music, news, stock, weather, fortune and so on) from the commercial information ringback tone generating system to the originating telephone, stopping the commercial information ringback tone when the communication connection fails after the second predetermined time(B-timeout) lapses(4).

The method further includes the steps of: requesting a connection for a receiving telephone to a receiving switch system from the commercial information ringback tone generating system by sending the initial address message(IAM) after the first predetermined time(A-timeout) lapses(5) since the beginning of the commercial information transmission, confirming the connection from the receiving switch system by sending the address complete message(ACM) to the commercial information ringback tone generating system(6), ringing the receiving telephone from the receiving switch system(7), sending a call progress message(CPG) from the receiving switch system to the commercial information ringback tone generating system(8), answering(10) a receiving telephone connection to the commercial information ringback tone generating system from the receiving switch system by sending an answer message(ANM) when a receiver receives a call the receiving telephone(9), answering the receiving telephone connection to the originating switch system from the commercial

information ringback tone generating system by stopping the sending of the commercial information ringback tone and sending the answer message(ANM) in case of free ringback tone type(11), and stopping the sending of the commercial information ringback tone to the originating switch system from the commercial information ringback tone generating system in case of the charged ringback tone type(11-1).

The method further includes the steps of: connecting the communication line between the originating telephone and the receiving telephone(12).

The method further includes the steps of: requesting(14) a release to the commercial information ringback tone generating system from the originating switch system by sending a release message(REL) when the originator is disconnected(13), confirming the release to the originating switch system from the commercial information ringback tone generating system by sending a release complete message(RLC)(15), requesting a release to the receiving switch system from the commercial information ringback tone generating system by sending a release message(REL)(16), confirming the release to the commercial information ringback tone generating system from the receiving switch system by sending a release complete message(RLC)(17), and finishing the communication by disconnecting the receiving telephone from the receiving switch system(18).

FIG.5b shows the procedure for generating commercial information ringback tone in a case where the commercial

information ringback tone generating system is used as an end station in the originating switch system according to the first embodiment of the invention.

The method includes the steps of: requesting(2-1) a connection to the commercial information ringback tone generating system by sending an initial address message(IAM) from the originating switch system when the originating telephone makes a call to the originating switch system(1-1), confirming the connection from the commercial information ringback tone generating system by sending an address complete message(ACM) to the originating switch system(3-1), replying(3-2) a receiver connection from the commercial information ringback tone generating system to the originating switch system by sending an answering message(ANM) in case of the charged ringback tone type.

The method further includes the steps of: transmitting the commercial information ringback tone(advertisement, music, news, stock, weather, fortune and so on) from the commercial information ringback tone generating system to the originating telephone, stopping(4-1) the commercial information ringback tone when the connection fails after the second predetermined time(B-timeout) lapses.

The method further includes the steps of: requesting a connection for a receiving telephone to a receiving switch from the originating switch system by sending the initial address message(IAM) after the first predetermined time(A-timeout) lapses(5-1) since the beginning of the

commercial information transmission, confirming the connection from the receiving switch system by sending the address complete message(ACM) to the originating switch system(6-1), ringing the receiving telephone from the receiving switch system(7-1), sending a call progress message(CPG) from the receiving switch system to the originating switch system(8-1). When a receiver receives a call with the receiving telephone(9-1), a receiver connection is done by replying(10-1) a receiving telephone connection to the originating switch system from the receiving switch system by sending an answer message(ANM), and requesting a stop of the commercial information ringback tone from the originating switch system by sending a release message to the commercial information ringback tone generating system(11-2).

The method further includes the steps of: confirming the release to the originating switch system from the commercial information ringback tone generating system by sending a release complete message(RLC)(11-3), connecting the communication line between the originating telephone and the receiving telephone(12-1) through the originating and receiving switch systems.

When the originator disconnects the communication(13-1), the method further goes through the steps of: requesting a release to the receiving switch system from the originating switch system by sending a release message(REL)(14-1), confirming the release to the originating switch system from the receiving switch system

by sending a release complete message(RLC)(15-1),and finishing the communication by disconnecting the receiving telephone from the receiving switch system(16-1).

FIG.6 is a schematic diagram for illustrating a connection between systems using the commercial information ringback tone generating device in the originating switch system.

FIG.7 shows a procedure for generating the commercial information ringback tone in a case where the commercial information ringback tone generating device in the originating switch system is used according to a second embodiment of the invention.

The second embodiment includes the steps of: making a call the originating telephone to the originating switch system(21), requesting a connection to the commercial information ringback tone generating device from the originating switch system(22), and replying the connection from the commercial information ringback tone generating device to the originating switch system(23).

The method further includes the steps of: transmitting the commercial information ringback tone to the originating telephone from the commercial information ringback tone generating device and when the connection fails after the second predetermined time(B-timeout) lapses, stopping the commercial information ringback tone(24).

The method further includes the steps of: requesting a connection to the receiving switch system by sending an initial address message(IAM) from the originating switch

system(25) after a first predetermined time(A-timeout) lapses since the beginning of the commercial information ringback tone transmission, confirming the connection to the originating switch system by sending an address complete message(ACM) from the receiving switch system(26), ringing the receiving telephone from the receiving switch system(27), sending a call progress message(CPG) from the receiving switch system to the originating switch system(28), replying a receiver connection(30) to the originating switch system by sending an answer message(ANM) from the receiving switch system when a receiver receives a call with the receiving telephone(29), and requesting a release of the commercial information ringback tone to the commercial information ringback tone generating device from the originating switch system(31).

The method further includes the steps of: connecting a communication line between the originating telephone and the receiving telephone(32).

The method further includes the steps of: requesting(34) a release to the receiving switch system from the originating switch system by sending a release message(REL) when the originating telephone is disconnected from the originating switch system(33), confirming the release to the originating switch system from the receiving switch system by sending a release complete message(RLC)(35), and finishing the communication by disconnecting the receiving telephone from the receiving

switch system(36).

FIG.8 is a schematic diagram for illustrating a connection between systems using the commercial information ringback tone generating device at the receiving switch system. The receiving switch system includes a switch, a PABX and other switches.

FIG.9a shows a procedure for generating the commercial information ringback tone in a case where the commercial information ringback tone generating system is utilized as a toll station outside of the receiving switch system according to a third embodiment of the present invention.

The third embodiment includes the steps of: making a call the originating telephone to the originating switch system(41), requesting a connection to the receiving switch system by sending an initial address message(IAM) from the originating switch system(42), requesting a connection to the commercial information ringback tone generating system by sending an initial address message(IAM) from the receiving switch system(43), confirming the connection from the commercial information ringback tone generating device to the receiving switch system by sending an address complete message(ACM)(44), confirming the connection to the originating switch system by sending an ACM from the receiving switch system(45), replying a connection to the receiving switch system from the commercial information ringback tone generating system by sending an answering message(ANM)(45-1), and replying a connection to the

originating switch system from the receiving switch system by sending an answer message(ANM)(45-2).

The method further includes the steps of: transmitting the commercial information ringback tone to the originating telephone from the commercial information ringback tone generating system, and when the connection fails after the B-timeout lapses, stopping the commercial information ringback tone(46).

The method further includes the steps of: requesting a connection to the receiving switch system by sending an initial address message(IAM) from the commercial information ringback tone generating system after the first predetermined time(A-timeout) lapses since the beginning of the commercial information Ringback tone transmission(47), confirming the connection to the commercial information ringback tone generating system by sending an address complete message(ACM) from the receiving switch system(48), ringing the receiving telephone from the receiving switch system(49), sending a call progress message(CPG) from the receiving switch system to the commercial information ringback tone generating system(50), replying a receiver connection(52) to the commercial information ringback tone generating system by sending an answer message(ANM) from the receiving switch system when a receiver receives a call with the receiving telephone(52). The method further goes through the steps of: stopping the commercial information ringback tone to the originating switch system from the commercial information ringback tone generating system and

replying a connection by sending an answer message(ANM)(53) in case of free ringback tone type, and stopping the commercial information ringback tone to the originating switch system from the commercial information ringback tone generating system in case of charged ringback tone type(53-1).

The method further includes the steps of: connecting a communication line between the originating telephone and the receiving telephone(54).

The method further includes the steps of: requesting a release(56) of the commercial information ringback tone to the commercial information ringback tone generating system from the originating switch system by sending a release message(REL) when the receiving telephone is disconnected from the originating switch system(55), and confirming the release to the originating switch system from the commercial information ringback tone generating system by sending a release complete message(RLC)(57).

The method further includes the steps of: requesting a release to the receiving switch system from the commercial information ringback tone generating system by sending a release message(REL)(58), confirming the release to the commercial information ringback tone generating system from the receiving switch system by sending a release complete message(RLC)(59), and finishing the communication by disconnecting the receiving telephone from the receiving switch system(60).

FIG.9b shows a procedure for generating the

commercial information ringback tone in a case where the commercial information ringback tone generating system is set as an end station outside of the receiving switch system according to the third embodiment of the present invention.

The method further comprises the steps of: making a call to the originating switch system by using the originating telephone(41-1), requesting a connection to the receiving switch system by sending an initial address(IAM) message from the originating switch system(42-1), requesting a connection to the commercial information ringback tone generating system by sending an initial address message(IAM) from the receiving switch system(43-1), confirming a connection from the commercial information ringback tone generating system to the receiving switch system by sending an address complete message(ACM)(44-1), confirming a connection from the receiving switch system to the originating switch system by sending an address complete message(ACM)(45-3).

The method further goes through the steps of: replying a receiver connection to the receiving switch system from the commercial information ringback tone generating system by sending an answer message(ANM)(45-4) in case of charged ringback tone type, and replying a receiver connection to the originating switch system from the receiving switch system by sending an answering message(ANM)(45-5).

The method further goes through the steps of: transmitting the commercial information ringback tone to

the originating telephone from the commercial information ringback tone generating system, and when the connection fails after the B-timeout lapses, stopping the commercial information ringback tone(46-1).

The method further goes through the steps of: requesting a release and requesting a stop of the commercial information ringback tone to the commercial information ringback tone generating system from the receiving switch system(49-1) by sending a release message(REL) when the receiving telephone ringing(47-1) and a receiver receives a call with the receiving telephone(48-1) after the first predetermined time(A-timeout) lapses since the beginning of the commercial information ringback tone transmission.

The method further goes through the steps of: confirming a release to the receiving switch system by sending a release complete message(RLC) from the commercial information ringback tone generating system(50-1) and replying a receiver connection to the originating switch system by sending an answer message(ANM) from the receiving switch system in case of free ringback tone type(51-1).

The method further goes through the steps of: connecting the communication line between the originating telephone and the receiving telephone(52-1).

The method further goes through the steps of: requesting a release(54-1) to the receiving switch system from the originating switch system by sending a release message(REL) when the originating telephone is disconnected

from the originating switch system(53-2), confirming the release to the originating switch system from the receiving switch system by sending a release complete message(RLC)(55-1), and finishing the communication by disconnecting the receiving telephone from the receiving switch system(56-1).

FIG.10 is a schematic diagram for illustrating a connection between systems using the commercial information ringback tone generating device in the receiving switch system.

FIG.11 shows a procedure for generating the commercial information ringback tone in a case where the commercial information ringback tone generating system in the receiving switch system is adapted according to a fourth embodiment of the present invention.

The fourth embodiment includes the steps of: making a call to the originating switch system by using the originating telephone(61), requesting a connection to the receiving switch system by sending an initial address message from the originating switch system(62),confirming the connection to the originating switch system by sending an address complete message(ACM) from the receiving switch system(63), requesting a connection to the commercial information ringback tone generating device from the receiving switch system(64), replying the connection to the receiving switch system from the commercial information ringback tone generating device(65), and answering a connection to the originating switch system from the

receiving switch system by sending an answer message(ANM)(65-1) in case of charged ringback tone type.

The method further includes the steps of: transmitting the commercial information ringback tone to the originating telephone from the commercial information ringback tone generating system in the receiving switch system(66).

The method further includes the steps of: sending a call progress message(CPG)(68) to the originating switch system from the receiving switch system when the receiving telephone rings(67) after the first predetermined time(A-timeout) lapses since the beginning of the commercial information ringback tone transmission, requesting a stop of the commercial information ringback tone to the commercial information ringback tone generating device from the receiving switch system(70) when a receiver receives a call with the receiving telephone(69). The method further includes the steps of: replying a receiver connection to the originating switch system from the receiving switch system by sending an answer message(ANM) in case of free ringback tone type(70-1).

The method further includes the steps of: connecting the communication line between the originating telephone and receiving telephone(71), requesting a release(73) to the receiving switch system from the originating switch system by sending a release message(REL) when the originating telephone is disconnected from the originating switch system(72), confirming the release to the originating switch system from the receiving switch system

by sending a release complete message(RLC)(74), and finishing the communication by disconnecting the receiving telephone from the receiving switch system(75).

FIG.12 is a schematic diagram for illustrating a connection between systems using the commercial information announcement generating system.

FIG.13 shows a procedure for generating the commercial information announcement using the commercial information announcement generating system according to a fifth embodiment of the present invention.

The fifth embodiment includes the steps of: requesting a connection(82) to the commercial information announcement generating system from the originating switch system by sending an initial address message(IAM) when the originating telephone makes a call to the originating switch system(81), confirming the connection to the originating switch system by sending an address complete message(ACM) from the commercial information announcement generating system(83), and replying a receiver connection to the originating switch system by sending an answer message(ANM) from the commercial information announcement generating system in case of charged announcement type(83-1).

The method further includes the steps of: transmitting the commercial information announcement(advertisement, music, news, stock, weather, fortune and so on) from the commercial information announcement generating system to the originating telephone and stopping the commercial

information announcement when the communication connection fails after the second predetermined time(B-timeout) lapses(84).

The method further includes the steps of: requesting a connection(85) to the receiving switch system or an automatic response application system(ARS, VMS etc) from the commercial information announcement generating system by sending an initial address message(IAM) after the first predetermined time(A-timeout) lapses since the beginning of the commercial information announcement transmission, confirming the connection to the commercial information announcement generating system by sending an address complete message(ACM) from the receiving switch system(86), sending a call progress message(CPG) to the commercial information announcement generating system from the receiving switch system or the automatic response application system(88) after the receiving telephone rings(87), and when a receiver receives a call with the receiving telephone(89), replying a receiver connection to the commercial information announcement generating system from the receiving switch system or the automatic response application system(90).

The method further includes the steps of: replying a receiver connection to the originating switch system from the commercial information announcement generating system by stopping the commercial information announcement and sending an answer message(ANM) in case of free of charge announcement type(91), stopping the commercial information

announcement in case of charged announcement type(91-1).

The method further includes the steps of: connecting the communication line between the originating telephone and the receiving telephone(92).

The method further includes the steps of: requesting a release(94) to the commercial information announcement generating system from the originating switch system by sending a release message(REL) when the originating telephone is disconnected from the originating switch system(93), confirming the release to the originating switch system from the commercial information announcement generating system by sending a release complete message (RLC)(95).

The method further includes the steps of: requesting a release to the receiving switch system or the automatic response application system by sending a release message (REL) from the commercial information announcement generating system(96), confirming the release to the commercial information announcement generating system from the receiving switch system by sending a release complete message(RLC)(97), and finishing the communication by disconnecting the receiving telephone from the receiving switch system or the automatic response application system(98).

FIG.14 is a schematic diagram for illustrating a connection between systems using the commercial information announcement generating system of an automatic response application system. The automatic response

application system includes an ARS(Automatic Response system), a VISS(Voice Information Service System), PPS(PrePaid System) etc. The commercial information announcement includes advertisements, music, news, stock, weather etc.

FIG.15 shows a procedure for generating the commercial information announcement using the commercial information announcement generating device of the automatic response application system according to a sixth embodiment of the invention.

Referring to FIG.15, the commercial information announcement is generated by using the commercial information announcement generating device of the automatic response application system including a voice/text/image commercial information announcement device and an automatic response applied device.

The sixth embodiment includes the steps of: requesting a connection(102) to the automatic response application system from the originating switch system by sending an initial address message(IAM) when the originating telephone makes a call to the originating switch system(101), confirming the connection to the originating switch system by sending an address complete message(ACM) from the automatic response application system(103), requesting a connection to the commercial information announcement generating device from the automatic response application system(104), replying a connection to the automatic response application system from the commercial information

announcement generating device(105), and replying a receiver connection to the originating switch system by sending an answer message from the automatic response application system in case of charged announcement type(105-1).

The method further goes through the steps of: transmitting the commercial information announcement from the commercial information announcement generating device to the originating telephone(106) and requesting a stop of the commercial information announcement after the first predetermined time(A-timeout) lapses(107).

The method further goes through the steps of: requesting a connection to an automatic response applied device from the automatic response application system(108), replying a connection to the automatic response applied system from the automatic response applied device(109), and replying a receiver connection to the originating switch system by sending an answer message(ANM) from the automatic response application system in case of free announcement type(109-1).

The method further goes through the steps of: connecting a communication line between the originating telephone and the automatic response applied device(110).

The method further goes through the steps of: requesting a release(112) to the automatic response application system from the originating switch system by sending a release message(REL) when the originating telephone is disconnected from the originating switch

system(111), confirming the release to the originating switch system from the automatic response application system by sending a release complete message(RLC)(113), and disconnecting the automatic response applied device from the automatic response application system(114).

FIG.16 is a schematic diagram for illustrating a connection between systems using the commercial information ringback tone generating system on an intelligent network.

FIG.17 shows a procedure for generating the commercial information ringback tone using the commercial information ringback tone generating system on the intelligent network according to a seventh embodiment of the present invention.

The seventh embodiment includes the steps of: making a call the originating telephone to the originating switch system(120), requesting a connection to a service switching point(SSP) by sending an initial address message(IAM) from the originating switch system(121), requesting an analyzed information to a service control point(SCP) from the service switching point(SSP)(122), requesting a seize resource to the commercial information ringback tone generating system from the service control point(SCP)(123), returning the seize resource to the service control point from the commercial information ringback tone generating system(124), requesting a connect resource to the service switching point from the service control point(125), and requesting a connection to the commercial information ringback tone generating system by sending an initial address message(IAM) from the service switching point(126).

The method further goes through the steps of: confirming the connection to the originating switch system from the commercial information ringback tone generating system through the service switching point by sending an address complete message(ACM)(127), and answering a receiver connection to the originating switch system by sending an answer message from the service switching point in case of the charged ringback tone type(127-1).

The method further goes through the steps of: transmitting a commercial information ringback tone(advertisement, music, news, stock, weather, fortune etc) to the originating telephone from the commercial information ringback tone generating system(128).

The method further goes through the steps of: requesting an analyzed information return to the service switching point from the service control point after the first predetermined time(A-timeout) lapses since the beginning of the commercial information ringback tone transmission(129), requesting a connection to the receiving switch system by sending an initial address message from the service switching point(130), confirming the connection to the service switching point by sending an address complete message(ACM) from the receiving switch system(131), ringing the receiving telephone by the receiving switch system(132), sending a call progress message(CPG) to the service switching point from the receiving switch system(133). When a receiver receives a call with the receiving phone(134), the method goes through

the steps of: replying a receiver connection(135) to the service switching point by sending an answer message(ANM) from the receiving switch system, and stopping the commercial information ringback tone by sending a release message(REL) to the commercial information ringback tone generating system from the service switching point(136).

The method further goes through the steps of: replying a receiver connection to the originating switch system by sending an answer message(ANM) from the service switching point in case of free ringback tone type(137).

The method further goes through the steps of: connecting a communication line between the originating telephone and the receiving telephone(138).

The method further goes through the steps of: requesting a release(140) to the service switching point from the originating switch system by sending a release message(REL) when the originating telephone is disconnected from the originating switch system(139), and confirming the release to the originating switch system from the service switching point by sending a release complete message(RLC)(141).

The method further goes through the steps of: requesting a release to the receiving switch system from the service switching point by sending a release message(REL)(142), confirming the release to the service switching point from the receiving switch system by sending a release complete message(RLC)(143), and finishing the communication by disconnecting the receiving telephone from

the receiving switch system(144).

When the SSP is utilized as an end switch, it works together with a voice communication switch device through interstation signal protocol(No.7, ISUP, R2MFC and so on), or when the SSP is utilized as a local switch, it works together with a voice communication switch device through IPC(Inter-Process Communication).

FIG.18 is a schematic diagram for illustrating a connection between systems using the commercial information ringback tone generating device in an IP(Intelligent Peripheral) on the intelligent network.

FIG.19 shows a procedure for generating the commercial information ringback tone using the commercial information ringback tone generating device in the IP on the intelligent network according to an eighth embodiment of the invention.

The eighth embodiment includes the steps of: connecting the originating telephone to the originating switch system(160), requesting a connection to a service switching point by sending an initial address message(IAM) from the originating switch system(161), requesting an analyzed information to a service control point(SCP) from the service switching point(SSP)(162), requesting a seize resource to the intelligent peripheral from the service control point(163), returning the seize resource to the service control point from the intelligent peripheral(164), requesting a connect resource to the service switching point from the service control point(165), and requesting

a connection to the intelligent peripheral by sending an initial address message(IAM) from the service switching point(166).

The method further goes through the steps of: confirming the connection to the originating switch system from the intelligent peripheral through the service switching point by sending an address complete message(ACM)(167), and answering a receiver connection to the originating switch system by sending an answer message(ANM) from the service switching point in case of charged ringback tone type(167-1).

The method further goes through the steps of: transmitting a commercial information Ringback tone to the originating telephone from the commercial information ringback tone generating system(168).

The method further goes through the steps of: requesting an analyzed information return to the receiving telephone after the first predetermined time(A-timeout) lapses since the beginning of the commercial information ringback tone transmission(169), requesting a connection to the receiving switch system by sending an initial address message from the service switching point(170), confirming the connection to the service switching point by sending an address complete message from the receiving switch system(171), ringing the receiving telephone by the receiving switch system(172), sending a call progress message to the service switching point from the receiving switch system(173). When a receiver operates the receiving

phone(174), the method goes on the steps of: answering a receiver connection to the service switching point from the receiving switch system by sending an answer message(175) and stopping the commercial information ringback tone by sending a release message to the intelligent peripheral from the service switching point(176).

The method further goes through the steps of: answering a receiver connection to the originating switch system by sending an answer message from the service switching point in case of free of charge ringback tone type(177).

The method further goes through the steps of: connecting a communication line between the originating and the receiving telephones(178).

The method further goes through the steps of: requesting a release to the service switching point from the originating switch system by sending a release message(REL)(180) when the originating telephone is disconnected from the originating switch system(179), and confirming the release to the originating switch system from the service switching point by sending a release complete message(RLC)(181).

The method further goes through the steps of: requesting a release to the receiving switch system from the service switching point by sending a release message(REL)(182), confirming the release to the service switching point from the receiving switch system by sending a release complete message(RLC)(183), and finishing the

communication by disconnecting the receiving telephone from the receiving switch system(184).

Although the present invention is explained by using the No. 7 ISUP(ISDN User Part) among the inter-station signal protocols, various signal protocols such as R2MFC, X. 25, TCP/IP, IPC and so on. (FIGs.5a, 5b, 7, 9a, 9b, 11, 13, 15, 17 and 19)

This invention makes a subscriber to hear the commercial information instead of the ringback tone and provides any kinds of charge discount. Thus, the subscriber can hear the music, musical advertisement, news, stock information instead of the boring ringback tone from the switch system during a communication wait.

In general, a caller can communicate with the receiver through a communication network by the ordinary telephones or mobile telephones. At this time, the commercial information such as advertisement, music, news, stock information instead of the ringback tone are generated and started from the time until the calling signal arrives on the receiver.

Recently, the corded telephone, the cordless telephone, auxiliary services such as ARS, VMS, VISS and PPS, and the telephone number help service are kinds of charged communication. However, when the invention is adapted, the communication charge discount or free of charge schedule can be given to the subscriber.

On the other hand, on the communication manage company' side, he can get a fee from the advertisement

provider and can provide the charged commercial information such as news, stock evaluations, music or the like so that an auxiliary benefit can be obtained and can be given a benefit users, communication company and advertisement provider by decreasing a communication fee.

The commercial information providing method according to the present invention can be adapted to communications between ordinary telephone, guide telephone, video telephone, mobile telephone, internet telephone, satellite telephone, or to the auxiliary services such as VMS, VISS or PPS(PrePaid Service).

Especially, in the case of the help service, the caller can wait while hearing the commercial information with music before he or she is connected to the counsellor.

In the case of the VMS(Voice Mailing Service), the subscriber can get through the voice mail box without any charge.

Communication connection methods includes those methods to call an ordinary phone number, to call the ordinary phone number by a pre-registered subscriber, and to call a special phone number, and system constructions for generating the commercial information ringback tone includes a device built-in-switch, a system built-out-switch and an intelligent network type, and protocols for connecting the commercial information ringback tone generating device, commercial information ringback tone generating system and the switch systems includes No.7 ISUP, R2MFC, IPC, X.25, TCP/IP, and

subscriber's information are classified into gender, age, region, time band, and earning.

INDUSTRIAL APPLICABILITY

As described above, the commercial information ringback tone generating method(a ringback service) and device according to the present invention can provide commercial information such as advertisement, music, news, stock information during a communication wait to the caller instead of the ordinary ringback tone so that the subscriber can relax a boring state, save the communication charge and hear the commercial information in forms of voice, text or image, and the communication company can get an additional benefit from providing the commercial information not only the communication charge even when the connection is failed, and finally the advertisement company can maximize the advertisement effect.

The present invention has been described in an illustrative manner, and it is to be understood the terminology used is intended to be in the nature of description rather than of limitation. Many modifications and variations of the present invention are possible in light of the above teachings. Therefore, it is to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.